

Start-up Procedures

For Seasonal Non-Community Water Systems

April 2006

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(Revised)

Start preparing your water system to open at least one month before you plan to serve water to customers. You will need time to evaluate the condition of your water system, make repairs, disinfect, and ensure the system is free of coliform bacteria. Purchase a chlorine residual test kit that measures from 0 to 3.5 parts per million (ppm) of “free chlorine” if you don’t already have one. Follow the recommended steps below. Call the Department of Health (DOH) regional engineer for your county if you have any questions.

1. Inspect System

Inspect all components of your water system, including your distribution lines. Use the Small Water System Self-Inspection Checklist (DOH Publication 331-312). If any deficiencies are identified, make repairs before you serve water to customers.

2. Activate Source and Treatment

- Turn on the power to your pump and treatment equipment.
- Read the source meter and record the reading on the checklist. If you don’t have a source meter, arrange to have one installed as soon as possible.
- Disinfect the level probe, measure the static water level, and record the result on the checklist. If you don’t have a probe, contact your local health jurisdiction to see if you can borrow one.
- For a chlorinated system: Purchase fresh chlorine, mix fresh feed solution, replace or clean all lines and parts, and verify the feed rate of the feed pump.
- For other treatment: Refer to the manufacturer, your operating procedures, or call your DOH regional engineer.

3. Open the System

Run water through the entire water system by opening up hydrants, blow-offs, and faucets. Make sure all pressure tanks are pressurized.

4. Disinfect and Flush

- Disinfect and flush all sources, pressure tanks, storage tanks, and distribution lines.
- Refer to Emergency Disinfection of Small Systems (DOH Publication 331-242) for guidance.
- Chlorinate your system. If anyone has access to the water, chlorinate using a dose of two ppm – approximately 3/4 cups of unscented household bleach for every 1,000 gallons of water in the system. If no one has access to the water, chlorinate at five ppm – approximately 1.5 cups of unscented household bleach for every 1,000 gallons of water in the system.
- Leave chlorinated water in the lines for a minimum of 24 hours.



- Flush all distribution lines thoroughly beginning with the tap closest to the source. Watch the level of water in your storage tank to ensure you maintain 30 pounds per square inch (psi) of pressure in the lines. When you flush, keep chlorinated water away from all surface water bodies such as lakes, streams, ponds, etc.

5. Collect Coliform Samples

- Measure the chlorine residual from taps or blow-offs throughout your distribution lines. An untreated system should not have any detectable free chlorine when coliform samples are collected. For a chlorinated system, the free chlorine residual should be at whatever the “normal” operating level is for the system (and greater than 0.2 ppm) when samples are collected.
- Collect several coliform samples at different locations in your distribution lines to ensure all areas of the system are free of coliform bacteria. These samples should be collected at least two weeks prior to opening.
- Refer to the Coliform Sampling Procedure brochure (DOH Publication 331-225) for instructions.
- Check the “Sample Collected for Information Only” or “Other” box under “Type of Sample” on your lab slip. These samples will not count for compliance.
- Re-evaluate the water system if any samples are unsatisfactory. Refer to the fact sheet Troubleshooting Checklist for Coliform Contamination (DOH Publication 331-180). Call your DOH regional engineer or coliform program manager for assistance.

6. Additional Things to Do

- Review your Water Facilities Inventory (WFI) form to make sure the contact person, population figures, and other information is correct. Make changes and send a copy to DOH. Note the coliform sampling schedule in Box 33.
- Write a monthly reminder on your calendar on the day you intend to collect your coliform sample. It is recommended you collect samples in the first week or two of each month. Be sure you know where to drop off or mail your sample and when your lab accepts samples for testing.
- Collect other water quality tests (i.e., nitrate).
- Test all backflow prevention devices using a certified backflow assembly tester. Have repairs made, if needed.
- Open and shut each valve to ensure they all work.
- Refine treatment operations. Understand water flow rate, chemical feed rates, pressure differentials, etc. Make sure the treatment is removing or adding what it was designed for. Test by measuring it.
- Calibrate all instruments.
- Inventory supplies and order what is needed for the entire season.
- Check the area where your backwash discharges to ensure there is no blockage and water can drain freely. Make sure backwash water can’t re-enter the water supply.

For More Information

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